IFWO

ENTERED

```
 7 <110> APPLICANT: Brunetta, Paul G.
 8        Sliwkowski, Mark X.
10 <120> TITLE OF INVENTION: THERAPY OF NON-MALIGNANT DISEASES OR DISORDERS WITH
11        ANTI-ERBB2 ANTIBODIES
13 <130> FILE REFERENCE: P1979R1
15 <140> CURRENT APPLICATION NUMBER: US 10/719,310
16 <141> CURRENT FILING DATE: 2003-11-21
18 <150> PRIOR APPLICATION NUMBER: US 60/428,027
19 <151> PRIOR FILING DATE: 2002-11-21
21 <160> NUMBER OF SEQ ID NOS: 13
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 107
25 <212> TYPE: PRT
26 <213> ORGANISM: Mus Musculus
28 <400> SEQUENCE: 1
29 Asp Thr Val Met Thr Gln Ser His Lys Ile Met Ser Thr Ser Val
30   1               5               10              15
32 Gly Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Ser
33               20              25              30
35 Ile Gly Val Ala Trp Tyr Gln Gln Arg Pro Gly Gln Ser Pro Lys
36               35              40              45
38 Leu Leu Ile Tyr Ser Ala Ser Tyr Arg Tyr Thr Gly Val Pro Asp
39               50              55              60
41 Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile
42               65              70              75
44 Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln
45               80              85              90
47 Tyr Tyr Ile Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu
48               95              100             105
50 Ile Lys
53 <210> SEQ ID NO: 2
54 <211> LENGTH: 119
55 <212> TYPE: PRT
56 <213> ORGANISM: Mus musculus
58 <400> SEQUENCE: 2
59 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly
60   1               5               10              15
62 Thr Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr
63               20              25              30
65 Asp Tyr Thr Met Asp Trp Val Lys Gln Ser His Gly Lys Ser Leu
66               35              40              45
68 Glu Trp Ile Gly Asp Val Asn Pro Asn Ser Gly Gly Ser Ile Tyr
69               50              55              60
```

RAW SEQUENCE LISTING   DATE: 09/03/2004
PATENT APPLICATION: US/10/719,310   TIME: 15:19:36

Input Set : A:\P1979R1Sequence.txt
Output Set: N:\CRF4\09032004\J719310.raw

```
 71    Asn Gln Arg Phe Lys Gly Lys Ala Ser Leu Thr Val Asp Arg Ser
 72                    65              70                      75
 74    Ser Arg Ile Val Tyr Met Glu Leu Arg Ser Leu Thr Phe Glu Asp
 75                    80              85                      90
 77   .Thr Ala Val Tyr Tyr Cys Ala Arg Asn Leu Gly Pro Ser Phe Tyr
 78                    95             100                     105
 80    Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 81                   110             115
 83 <210> SEQ ID NO: 3
 84 <211> LENGTH: 107
 85 <212> TYPE: PRT
 86 <213> ORGANISM: Artificial Sequence
 88 <220> FEATURE:
 89 <223> OTHER INFORMATION: sequence is synthesized
 91 <400> SEQUENCE: 3
 92  Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
 93    1               5              10                      15
 95  Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val Ser
 96                   20              25                      30
 98  Ile Gly Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys
 99                   35              40                      45
101    Leu Leu Ile Tyr Ser Ala Ser Tyr Arg Tyr Thr Gly Val Pro Ser
102                    50              55                      60
104    Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
105                    65              70                      75
107    Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
108                    80              85                      90
110    Tyr Tyr Ile Tyr Pro Tyr Thr Phe Gly Gln Gly Thr Lys Val Glu
111                    95             100                     105
113    Ile Lys
116 <210> SEQ ID NO: 4
117 <211> LENGTH: 119
118 <212> TYPE: PRT
119 <213> ORGANISM: Artificial Sequence
121 <220> FEATURE:
122 <223> OTHER INFORMATION: sequence is synthesized
124 <220> FEATURE:
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W--> 125 <221> **NAME/KEY: artificial**
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126 <222> LOCATION: 1-119
127 <223> OTHER INFORMATION: Fab 574 VH
129 <400> SEQUENCE: 4
130  Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
131    1               5              10                      15
133  Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr
134                   20              25                      30
136  Asp Tyr Thr Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
137                   35              40                      45
139  Glu Trp Val Ala Asp Val Asn Pro Asn Ser Gly Gly Ser Ile Tyr
140                   50              55                      60
```

```
142 Asn Gln Arg Phe Lys Gly Arg Phe Thr Leu Ser Val Asp Arg Ser
143             65              70              75
145 Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp
146             80              85              90
148 Thr Ala Val Tyr Tyr Cys Ala Arg Asn Leu Gly Pro Ser Phe Tyr
149             95              100             105
151 Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
152             110             115
154 <210> SEQ ID NO: 5
155 <211> LENGTH: 107
156 <212> TYPE: PRT
157 <213> ORGANISM: Artificial Sequence
159 <220> FEATURE:
160 <223> OTHER INFORMATION: sequence is synthesized
162 <400> SEQUENCE: 5
163 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
164   1             5               10              15
166 Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser
167             20              25              30
169 Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys
170             35              40              45
172 Leu Leu Ile Tyr Ala Ala Ser Ser Leu Glu Ser Gly Val Pro Ser
173             50              55              60
175 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
176             65              70              75
178 Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
179             80              85              90
181 Tyr Asn Ser Leu Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu
182             95              100             105
184 Ile Lys
187 <210> SEQ ID NO: 6
188 <211> LENGTH: 119
189 <212> TYPE: PRT
190 <213> ORGANISM: Artificial Sequence
192 <220> FEATURE:
193 <223> OTHER INFORMATION: sequence is synthesized
195 <400> SEQUENCE: 6
196 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
197   1             5               10              15
199 Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
200             20              25              30
202 Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
203             35              40              45
205 Glu Trp Val Ala Val Ile Ser Gly Asp Gly Gly Ser Thr Tyr Tyr
206             50              55              60
208 Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
209             65              70              75
211 Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp
212             80              85              90
```

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              RAW SEQUENCE LISTING          DATE: 09/03/2004
              PATENT APPLICATION:  US/10/719,310    TIME: 15:19:36

                   Input Set : A:\P1979R1Sequence.txt
                   Output Set: N:\CRF4\09032004\J719310.raw

      214  Thr Ala Val Tyr Tyr Cys Ala Arg Gly Arg Val Gly Tyr Ser Leu
      215                  95                100               105
      217  Tyr Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
      218                  110               115
      220  <210> SEQ ID NO: 7
      221  <211> LENGTH: 10
      222  <212> TYPE: PRT
      223  <213> ORGANISM: Mus musculus
      225  <220> FEATURE:
      226  <221> NAME/KEY: unsure
      227  <222> LOCATION: 10
      228  <223> OTHER INFORMATION: unknown amino acid
      230  <400> SEQUENCE: 7
W--> 231  Gly Phe Thr Phe Thr Asp Tyr Thr Met Xaa
      232    1               5                 10
      234  <210> SEQ ID NO: 8
      235  <211> LENGTH: 17
      236  <212> TYPE: PRT
      237  <213> ORGANISM: Mus musculus
      239  <400> SEQUENCE: 8
      240  Asp Val Asn Pro Asn Ser Gly Gly Ser Ile Tyr Asn Gln Arg Phe
      241    1               5                 10                15
      243  Lys Gly
      246  <210> SEQ ID NO: 9
      247  <211> LENGTH: 10
      248  <212> TYPE: PRT
      249  <213> ORGANISM: Mus musculus
      251  <400> SEQUENCE: 9
      252  Asn Leu Gly Pro Ser Phe Tyr Phe Asp Tyr
      253    1               5                 10
      255  <210> SEQ ID NO: 10
      256  <211> LENGTH: 11
      257  <212> TYPE: PRT
      258  <213> ORGANISM: Mus musculus
      260  <400> SEQUENCE: 10
      261  Lys Ala Ser Gln Asp Val Ser Ile Gly Val Ala
      262    1               5                 10
      264  <210> SEQ ID NO: 11
      265  <211> LENGTH: 7
      266  <212> TYPE: PRT
      267  <213> ORGANISM: Mus musculus
      269  <220> FEATURE:
      270  <221> NAME/KEY: unsure
      271  <222> LOCATION: 5-7
      272  <223> OTHER INFORMATION: unknown amino acid
      274  <400> SEQUENCE: 11
W--> 275  Ser Ala Ser Tyr Xaa Xaa Xaa
      276    1               5
      278  <210> SEQ ID NO: 12
```

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279 <211> LENGTH: 9
280 <212> TYPE: PRT
281 <213> ORGANISM: Mus musculus
283 <400> SEQUENCE: 12
284  Gln Gln Tyr Tyr Ile Tyr Pro Tyr Thr
285    1               5
287 <210> SEQ ID NO: 13
288 <211> LENGTH: 645
289 <212> TYPE: PRT
290 <213> ORGANISM: human
292 <400> SEQUENCE: 13
293  Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu
294    1               5                  10                  15
296  Leu Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp
297                  20                  25                  30
299  Met Lys Leu Arg Leu Pro Ala Ser Pro Glu Thr His Leu Asp Met
300                  35                  40                  45
302  Leu Arg His Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu
303                  50                  55                  60
305  Glu Leu Thr Tyr Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln
306                  65                  70                  75
308  Asp Ile Gln Glu Val Gln Gly Tyr Val Leu Ile Ala His Asn Gln
309                  80                  85                  90
311  Val Arg Gln Val Pro Leu Gln Arg Leu Arg Ile Val Arg Gly Thr
312                  95                  100                 105
314  Gln Leu Phe Glu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Gly
315                  110                 115                 120
317  Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly
318                  125                 130                 135
320  Gly Leu Arg Glu Leu Gln Leu Arg Ser Leu Thr Glu Ile Leu Lys
321                  140                 145                 150
323  Gly Gly Val Leu Ile Gln Arg Asn Pro Gln Leu Cys Tyr Gln Asp
324                  155                 160                 165
326  Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn Asn Gln Leu Ala
327                  170                 175                 180
329  Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys
330                  185                 190                 195
332  Ser Pro Met Cys Lys Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu
333                  200                 205                 210
335  Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys Ala
336                  215                 220                 225
338  Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys
339                  230                 235                 240
341  Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys
342                  245                 250                 255
344  Leu His Phe Asn His Ser Gly Ile Cys Glu Leu His Cys Pro Ala
345                  260                 265                 270
347  Leu Val Thr Tyr Asn Thr Asp Thr Phe Glu Ser Met Pro Asn Pro
348                  275                 280                 285
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 09/03/2004
PATENT APPLICATION: **US/10/719,310**   TIME: 15:19:37

Input Set : **A:\P1979R1Sequence.txt**
Output Set: **N:\CRF4\09032004\J719310.raw**

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; Xaa Pos. 10
Seq#:11; Xaa Pos. 5,6,7

VERIFICATION SUMMARY   DATE: 09/03/2004
PATENT APPLICATION: **US/10/719,310**   TIME: 15:19:37

Input Set : **A:\P1979R1Sequence.txt**
Output Set: **N:\CRF4\09032004\J719310.raw**

L:125 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:4
L:231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:275 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0